

Claims

1. Device for treating bladder-emptying dysfunctions of a human, having a catheter that can be introduced into the urethra, which catheter has a urine-emptying channel and carries a balloon arrangement that can be filled with a fluid, to seal the bladder and to hold the catheter in the bladder lumen, which arrangement can be filled with or emptied of the said fluid by means of at least one channel that runs along the catheter wall and is sealed off at the distal end segment of the catheter, and having an automatically closing valve accommodated in a proximal end segment of the catheter, whereby the length of the catheter is dimensioned in such a manner that its distal end lies within the urethra in the inserted state, and the proximal end segment in question carries a hydraulic activation mechanism for opening the valve, whereby the activation mechanism can be hydraulically impacted by means of mechanical pressure on the activation balloon that is disposed on the distal end segment of the catheter, filled with activation fluid, and connected with the activation mechanism by way of a connection channel, characterized in that the said activation mechanism is formed in that the valve (7, 8) contains a closure part (5) elastically connected with the said proximal end segment of the catheter (2) in such a manner that this part seals off the catheter (2) at the

said proximal end segment in the non-activated state of the activation balloon (23), and that the closure part (5) in question can be moved out from the sealing contact without mechanical means, solely in response to a hydraulic impact by means of the activation balloon (23), by means of the effective hydraulic pressure built up thereby at the said proximal end segment, to such an extent that the urine-emptying channel (3) of the catheter (2) is opened for unhindered passage of urine.

2. Device according to claim 1, characterized in that the valve closure part (5) having a conically shaped contact surface (7) makes it possible to seal off the urine-emptying channel (3) of the catheter (2) at an end edge (8) at the proximal catheter end.

3. Device according to claim 1 or 2, characterized in that the closure part (5) and the proximal end segment of the catheter (2) are elastically connected with one another by means of holder elements (6).

4. Device according to claim 1 or 2, characterized in that the closure part (5) is connected with the proximal end segment of the catheter (2) by means of a joint element (11) as well as by means of at least one elastic holder element (6).

5. Device according to claim 3 or 4, characterized in that the elastic holder element (6), in each instance, is formed on the closure part (5) or on the proximal end segment of the catheter (2), and is separately attached to the proximal end of the catheter (2) or to the closure part (5), respectively, with its other end, in each instance.

6. Device according to claim 5, characterized in that the holder element (6), in each instance, is separately attached, with the other end, in each instance, to the proximal end segment of the catheter (2) or to the closure part (5), respectively, by means of a glued connection.

7. Device according to one of claims 1 to 6, characterized in that the connection channel, i.e. activation channel (4) connected with the activation balloon (23) contains a pressure lumen separated by a separate valve (29) in the region of the proximal end segment of the catheter (2), and when this lumen is filled with the activation fluid, by means of activation of the said activation balloon (23), the closure part (5) can be lifted up from its sealing contact on the said urine-emptying channel (3) of the catheter (2).

8. Device according to claim 7, characterized in that the said valve (29) is configured in such a manner that it allows in-flow of the activation fluid into the said pressure lumen at a first, relatively high velocity, and permits back-flow of the activation fluid in question from the said pressure lumen at a significantly lower second velocity, in comparison.

9. Device according to claim 8, characterized in that the said valve (29), which separates the pressure lumen from the activation balloon (23), has a valve shaft (31) that has a passage opening (32, 33) in the pressure lumen that is accessible from the activation balloon (23), which opening is surrounded by a valve tube (34).

10. Device according to one of claims 1 to 9, characterized in that the catheter (2) and the closure part (5) consist of silicone.

11. Device according to one of claims 1 to 10, characterized in that the balloon arrangement (12, 13) and the activation balloon (23) consist of silicone.

12. Device according to one of claims 1 to 11, characterized in that the activation fluid is oil.

13. Device according to claim 12, characterized in that the oil is olive oil.